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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/812,940

03/31/2004

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EXAMINER

CHEN, ALAN S

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/812,940	<b>Applicant(s)</b> SANKARAVADIVELU ET AL.	
	<b>Examiner</b> Alan S. Chen	<b>Art Unit</b> 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03/31/2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-8,10-14,16-18 and 20-27 is/are rejected.
- 7) ☒ Claim(s) 5,9,15 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/31/2004</u> .  | 6) <input type="checkbox"/> Other: ____                           |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1-4,6-8,10-14,16-18 and 20-27 are rejected under 35 U.S.C. 102(e) as being anticipated by US Pat. No. 6,772,236 to Williams et al. (*Williams*).

3. Per claim 1, Williams discloses a method for processing data received from an input device through an interface (*Fig. 4*), comprising: (a) examining one or more bytes of a data packet received by a port driver (*Fig. 4, element 146; Fig. 2, element 60 shows the port driver receiving packet that contains bytes shown in the table in Columns 1 and 2*); (b) detecting the presence within the data packet of data not recognized by the port driver (*Column 2, lines 10-20, port driver does not recognized battery status or provide related monitoring functions for battery status; Column 9, lines 1-5 disclose that it is the filter driver that determines when a mouse packet is received*) (4); (c) storing the unrecognized data from the packet (*Column 9, lines 20-30 disclose at least two bits must be stored to represent four states; these two bits are 'unrecognized' because they represent positions that are 'virtually impossible mouse movements', Column 9, lines 8-15; Fig. 3, elements 114 and 115 expressly show battery states are stored*); (d)

replacing the portion of the packet containing the unrecognized data with a substitute value (*Fig. 3, elements 114 and 118 show replacement of stored battery states with another value*); (e) receiving a data structure created from the data packet, the data structure containing a value corresponding to the substitute value (*Fig. 4, element 170 shows mouse packet is sent to and received by host computer*); (f) retrieving the stored data upon detecting the data structure value corresponding to the substitute value (*Fig. 2, element 64 and Fig. 4, element 146 shows detecting the battery state when the mouse packet is received*); and (g) providing input data to at least one application program based on the retrieved data (*Fig. 6A and 6B shows a host mouse program using the battery state to display warnings*).

4. Per claim 2, Williams discloses claim 1, Williams further examining one or more bytes comprises examining one or more bytes of a PS/2 data packet received by the port driver (*Column 1 and 2 show at least four bytes which the port driver examines; Column 5, lines 55-60, port driver evaluates PS/2 data packets*).

5. Per claims 3 and 6, Williams discloses claim 2, Williams further disclosing the unrecognized data comprises input data inserted into a portion of a PS/2 data packet reserved for a specific data type (*Column 9, lines 15-30, byte four is used for scroll wheel data type, the values of the battery status is embedded into this byte*), and wherein the port driver does not recognize the inserted data as being distinct from the specific data type (*the values in the fourth byte are for the scroll wheel, where the battery status is embedded into this byte, the port driver thinking this is scroll wheel data*). The inserted data that represents the battery status is construed to be a flag

since the unrecognized data indicates that it is a battery state packet (*Fig. 4, element 150*).

6. Per claim 4, Williams discloses claim 2, Williams further disclosing steps a-g are carried out by a filter driver in data communication with the port driver (*Fig. 2, element 62; Fig. 3, element 106*).

7. Per claim 7, Williams discloses claim 2, Williams further disclosing the unrecognized data comprises horizontal scrolling data from a computer mouse (*Fig. 5, elements 192, 196, 200, 202 and 204 are all scroll wheel data*).

8. Per claim 10, Williams discloses claim 7, Williams further disclosing providing horizontal scroll data to a first application program which provides horizontal scroll information to a second application program (*Fig. 7; Column 29-40, "...mouse host application may...launch another application as a result of detecting an encoded state or a transition..."*).

9. Claims 11-14, 16, 17 and 20, Williams anticipates claims 1-4, 6, 7 and 10, which are substantially similar to the former set of claims. Williams shows the computer readable medium in which the instructions are stored in *Fig. 1, element 27*. Below, a more specific mapping of the claims is given.

- Claim 11 is substantially similar to claim 1 and therefore is rejected accordingly.
- Claim 12 is substantially similar to claim 2 and therefore is rejected accordingly.
- Claim 13 is substantially similar to claim 3 and therefore is rejected accordingly.
- Claim 14 is substantially similar to claim 4 and therefore is rejected accordingly.
- Claim 16 is substantially similar to claim 6 and therefore is rejected accordingly.

- Claim 17 is substantially similar to claim 7 and therefore is rejected accordingly.
- Claim 20 is substantially similar to claim 10 and therefore is rejected accordingly.

10. Per claim 21, Williams discloses a computer input device (*Fig. 2, mouse*), comprising: an input control (*Fig. 2, element 74*) for receiving a first kind of user input (*Fig. 1, a battery status; normally just user hand movement*), the first kind of user input having an associated data type not recognized by a port driver executing upon a computer (*Column 2, lines 10-20, port driver does not recognized battery status or provide related monitoring functions for it; Column 9, lines 1-5 disclose that it is the filter driver that determines when a mouse packet is received*); a controller communicably coupled to the input control (*Fig. 2, element 70*); and a memory (*Fig. 2, element 72*) having stored thereon instructions which, when executed by the controller, cause the controller to perform steps comprising: receiving data representing a user input of the first kind (*Column 9, lines 20-30 disclose at least two bits must be stored to represent four states of the battery*), inserting the received data into a portion of a data packet reserved for a specific type of data distinct from the data type associated with the first kind of user input (*Fig. 3, elements 114 and 118 show replacement of stored battery states with another value; Column 9, lines 15-30, byte four is typically used for scroll wheel data type, the values of the battery status is embedded into this byte*); and transmitting the data packet to the port driver (*Column 11, once receiver, element 44, incorporates battery state into PS2 packet, packet is sent to the port driver, element 60*).

11. Per claim 22, Williams discloses claim 21, wherein the first kind of user input has an associated data type not recognized by a PS/2 port driver (*Column 2, lines 10-20,*

*port driver does not recognized battery status or provide related monitoring functions for battery status; Column 10, lines 60-67 state values for battery status are 'unlikely values') executing upon the computer, said inserting the received data comprises inserting the received data into a portion of a PS/2 data packet (Column 11, lines 1-10, battery state is incorporated into PS/2 packet), and said transmitting comprises transmitting the PS/2 data packet to the PS/2 port driver (Column 11, lines 1-10, receiver sends battery state to PS/2 port).*

12. Per claim 23, Williams discloses claim 22, further disclosing a wireless user-operated portion for receiving user input (*Fig. 2, element 74 and 90 are wireless communicators*); and a transceiver portion in wireless communication with the user-operated portion and in communication with the computer, wherein the controller is located in the transceiver portion (*Fig. 2, element 44 is wireless transceiver, receiving data from mouse and transmitting to host; controller is shown inside transceiver*).

13. Per claim 24, Williams discloses claim 22, Williams further disclosing the user input comprises horizontal scroll input (*Column 1 and 2, table shows horizontal movement stored in Byte 2*), and inserting the received data into a portion of a PS/2 data packet comprises inserting horizontal scroll data into a byte of a PS/2 packet reserved for data other than horizontal scroll data (*Column 9, lines 21-30 show the battery status is stored in scroll wheel data, Byte 4*).

14. Per claims 8,18 and 25-27, Williams disclose claims 7, 17 and 22, Williams further disclosing being able to receive a second kind of input that is not recognized by the PS/2 port driver (*Column 9, lines 32-55, signal quality*). The second kind of input is

handled in the same fashion as the first kind (*battery status*) except that the signal quality states are written to another byte in the PS/2 packet. Therefore the previous analysis for the first kind of user input/flag is applied to the second kind of input. Williams also discloses the signal quality state is stored in Y mouse movement (*vertical scroll*) of a different byte than the battery status (*Column 9, lines 35-40*).

### ***Allowable Subject Matter***

15. Claims 5,9,15 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is the statement of reasons for the indication of allowable subject matter: The prior art disclosed by the applicant and cited by the Examiner fail to teach or suggest, alone or in combination, ***all*** the limitations of the independent claims (claims 1 and 11) and respective dependent claims, particularly: the filter driver is in data communication with a third driver, the third driver is in data communication with the port driver, the third driver receives data from the PS/2 packet and the substitute value and the third driver provides the data structure to the filter driver.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patents and patent related publications are cited in the Notice of References Cited (Form PTO-892) attached to this action to further show the state of the art with respect to receiving data over PS/2 protocol other than strictly keyboard or mouse data.




Art Unit: 2182

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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